(19) World Intellectual Property Organization International Bureau





(43) International Publication Date 22 September 2005 (22.09.2005)

PCT

(10) International Publication Number WO 2005/088521 A1

(51) International Patent Classification⁷:

G06K 9/68

(21) International Application Number:

PCT/GB2005/000981

(22) International Filing Date: 15 March 2005 (15.03.2005)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data: 0405741.0

15 March 2004 (15.03.2004) GB

- (71) Applicant (for all designated States except US): BAE SYSTEMS PLC [GB/GB]; 6 Carlton Gardens, London SW1Y 5AD (GB).
- (72) Inventor; and
- (75) Inventor/Applicant (for US only): WILLIS, Christopher, Jon [GB/GB]; BAE Systems Advanced Technology Centre, West Hanningfield Road, Great Baddow, Chelmsford, Essex CM2 8HN (GB).
- (74) Agent: INTELLECTUAL PROPERTY DEPART-MENT; Bae Systems Plc, Lancaster House, P.O. Box 87, Farnborough Aerospace Centre, Farnborough, Hampshire, GU14 6YU (GB).

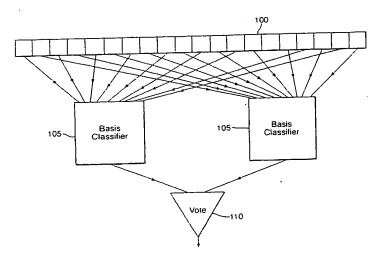
- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (unless otherwise indicated. for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

with international search report

[Continued on next page]

(54) Title: IMAGE CLASSIFICATION



(57) Abstract: An apparatus and method are provided for classifying elements in an image, in particular elements of a hyperspectral image, where an element is defined by a vector of feature values. The apparatus comprises classifier means comprising a number of classifiers each operable, in respect of an element to be classified, to receive a different predetermined subset of the feature values from the element feature vector and wherein, in operation, each classifier is trained in respect of a predetermined set of classes using training data representative of elements in each class; and combining means operable to combine outputs from the classifiers to determine which of the predetermined classes to associate with an element to be classified, wherein each of the different predetermined subsets of feature values comprise a different cyclic selection of the feature values such that, in operation, adjacent feature values in an element feature vector are input to different ones of the classifiers and all feature values are input to at least one classifier.

WO 2005/088521 A1



For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.